

### PtRh10 DPH

#### Pt-10%Rh DPH

PtRh10 DPH is an oxide dispersion hardened grade of PtRh10.

It is commonly used for applications in the glass industry, e. g. the manufacture of feeder systems. PtRh10 DPH is characterized by high resistance to corrosion and high strength with excellent ductility in the high temperature range (up to 1700°C).

The hardening which results from the oxide particles, represents the most effective strengthening mechanism of the material. Due to the modified microstructure, DPH is considerably less sensitive to corrosion processes along the grain boundaries than comparable materials. These characteristics allow for extended life and results in the precious metal to be used more economically. An example would be reduced wall thicknesses of PtRh10 DPH compared to PtRh10 or increased lifetime.

#### General information

Applications	crucibles, glass fibre bushings, electrodes, casting dishes, semi-finished products, glass manufacturing, drain bushings, thermocouple thimbles
Product Forms	wire, sheet, tube
Density, g/cm <sup>3</sup>	19.9
Melting Range, °C	1840 - 1870

#### Forming Processes

Material Behaviour	ductile
Forming Process	formable, machinable

#### Mechanical Properties

Young's Modulus, GPa	210
Hardness, HV	98 - 202
Tensile Strength, MPa	359 - 656
Yield Strength, MPa	167 - 634
Elongation, %	0.5 - 32

#### Contact

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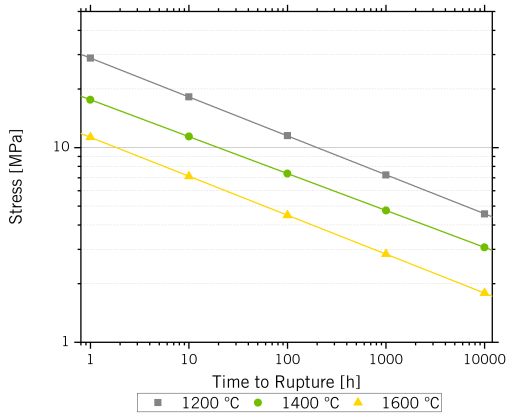
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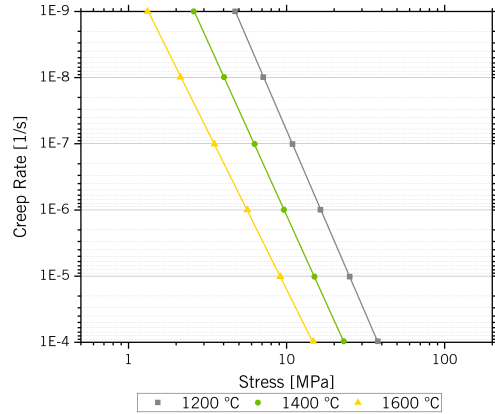
### Pt-10%Rh DPH

#### Creep Rupture



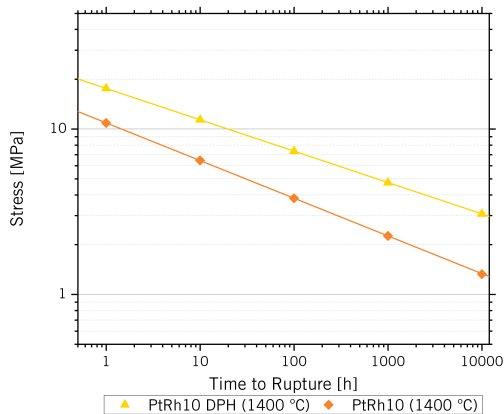
source: measured and extrapolated

#### Norton



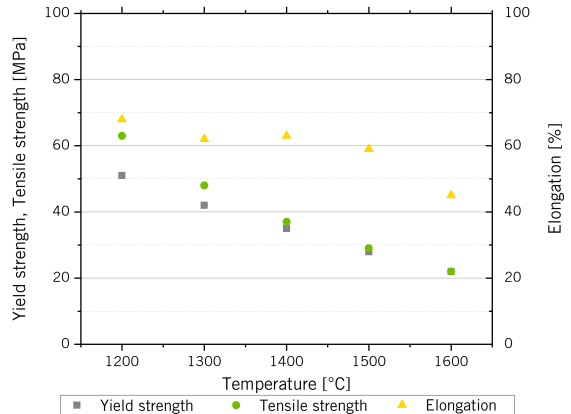
source: measured and extrapolated

#### Creep Rupture – Comparison



source: measured and extrapolated

#### High Temperature Tensile Test



source: measured

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